

ABSTRACT

BACKGROUND

Gestational diabetes mellitus is defined as any degree of glucose intolerance with its onset or first recognition during pregnancy. Early diagnosis of this complication and appropriate treatment aimed at tight control over maternal glucose levels may positively influence the perinatal outcome. There are studies, which suggest platelets play a role in the pathogenesis of gestational diabetes mellitus. Altered platelet morphology and function (higher MPV) have been reported in patients with diabetes mellitus. These changes may be associated with increased risk of vascular disease and venous thromboembolism. Although normal pregnancy may result in the activation of primary hemostasis and coagulation, these issues have not been widely investigated in gestational diabetes.

AIM AND OBJECTIVE

- The present study was designed to compare and assess the demographic and laboratory findings in healthy pregnant women and Gestational diabetes mellitus patients. The aim of this study is to compare the various blood parameters especially platelet indices in gestational diabetes and normal pregnant women and to investigate whether there is a statistically significant difference in these parameters between gestational diabetes mellitus patients and in patients with healthy pregnancies. The objective of this study is to highlight the value of inflammatory markers in predicting gestational diabetes mellitus (GDM).

This study also evaluates the relationship between blood glucose levels and mean platelet volume. Correlation of blood glucose against Various parameters like HBA1C, Platelet count, mean platelet volume ,Platelet distribution width are also studied and results analysed .

MATERIALS AND METHODS

A cross sectional study was performed on 200 pregnant women in their second/third trimester.: 100 cases with newly diagnosed gestational diabetes and 100 euglycemic healthy controls. GDM was diagnosed using the one step 2 hr OGTT values. The two groups were compared in terms of demographic and platelet parameters derived from complete blood counts using the automated CBC coulter machine

STATISTICAL ANALYSIS

Data was collected and Statistical analysis was performed using student t test, Mann Whitney test and pearson corelation

RESULTS

The mean platelet volume in control group and GDM group was 7.77 ± 0.52 fl and 11.13 ± 0.48 fl respectively. The MPV was significantly higher in GDM group when compared to healthy pregnancies. ($P < 0.001$). HBA1C and BMI values were also significantly higher in GDM group. Though the platelet count in GDM was higher the difference was not significant ($p = 0.435$). Platelet distribution width values were similar

in both groups. The mean platelet volume was linearly correlated with glucose values (correlation coefficient -0.923).

CONCLUSION

- Platelet volume is a marker of platelet activation and function and is measured using the MPV .Measurement of the MPV and other platelet-related parameters is a simple procedure, available in most hospital laboratories. Platelet-related indices and their determination are inexpensive and routinely ordered markers, the significance of which is often ignored. They may be useful in screening for gestational diabetes as an adjunct to oral glucose tolerance test. These parameters can also be used as an adjunct to monitor the disease after starting treatment since alterations in MPV occur much before changes in blood glucose .The role of changes in these parameters in the hemostatic system during diabetic pregnancy and the possible clinical relevance concerning the risk for thrombosis calls for further studies.

Key words-

Gestational diabetes mellitus ,Oral glucose tolerance test (OGTT),Mean platelet volume, platelet count, platelet distribution width